

Appl. No. : 10/663,363
Filed : September 16, 2003

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-25. (Canceled)

26. (New) A variable pressure regulator, comprising:

a valve body having a fluid inlet, a fluid outlet, a fluid pressure-sensing chamber;

a resilient member comprising a wall section forming a wall of said chamber, a periphery of said wall section secured to said valve body, said resilient member additionally comprising a valve stem connected to said wall section and extending through said chamber towards said fluid inlet, and a valve element supported on said valve stem and configured to selectively close said fluid inlet;

an adjuster assembly comprising an adjuster member and a cover, said adjuster member movable relative to said valve body to deflect a portion of said wall section of said resilient member, wherein said deflected portion is responsive to pressure in said chamber to control a position of said valve element with respect to said fluid inlet, said cover being manually rotatable relative to said valve body and configured to rotate said adjuster therewith such that a position of said deflected portion is capable of being adjusted by rotation of said cover.

27. (New) The pressure regulator of Claim 26, additionally comprising a detent mechanism defining a plurality of angular positions relative to said valve body, said detent mechanism being configured to position said cover in one of said plurality of angular positions and provide a force tending to inhibit unintended movement from said one of said plurality of angular positions.

28. (New) The pressure regulator of Claim 27, wherein said detent mechanism comprises a plurality of recesses defined by one of said valve body and said cover, and at least one projection fixed in relation to the other of said valve body and said cover, said at least one projection configured to engage one of said plurality of recesses.

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29. (New) The pressure regulator of Claim 26, additionally comprising an indicator arrangement configured to relate an angular position of said cover to a position of said deflected portion of said resilient member.

30. (New) The pressure regulator of Claim 29, wherein said indicator arrangement comprises a fluid outlet pressure scale on one of said valve body and said cover, and a reference indicia on the other of said valve body and said cover, said reference indicia capable of being aligned with a demarcation of said fluid outlet pressure scale to achieve a desired position of said deflected portion of said resilient member.

31. (New) The pressure regulator of Claim 27, additionally comprising an indicator arrangement configured to relate an angular position of said cover to a position of said deflected portion of said resilient member.

32. (New) The pressure regulator of Claim 31, wherein said indicator arrangement comprises a fluid outlet pressure scale on one of said valve body and said cover, and a reference indicia on the other of said valve body and said cover, said reference indicia capable of being aligned with a demarcation of said fluid outlet pressure scale to achieve a desired position of said deflected portion of said resilient member.

33. (New) A variable pressure regulator, comprising:

a valve body having a fluid inlet, a fluid outlet, a fluid pressure-sensing chamber;

a resilient member comprising a wall section forming a wall of said chamber, a periphery of said wall section secured to said valve body, said resilient member additionally comprising a valve stem connected to said wall section and extending through said chamber towards said fluid inlet, and a valve element supported on said valve stem and configured to selectively close said fluid inlet;

an adjuster manually movable relative to said valve body to deflect a portion of said wall section of said resilient member, wherein said deflected portion is responsive to pressure in said chamber to control a position of said valve element with respect to said fluid inlet;

a detent mechanism defining a plurality of relative positions between said adjuster and said valve body, said detent mechanism being configured to position said cover in one of said plurality of relative positions and provide a force tending to inhibit unintended movement from said one of said plurality of relative positions.

34. (New) The pressure regulator of Claim 33, wherein said plurality of relative positions between said adjuster and said valve body are a plurality of angular positions.

35. (New) A variable pressure regulator, comprising:

- a base having a wall forming a wall of a fluid pressure-sensing chamber, said base further including a fluid inlet opening to the chamber, and a fluid outlet in communication with said chamber;

- a resilient diaphragm forming a wall of said chamber and comprising a valve element mounted to a central section of said diaphragm and cooperating with said fluid inlet to selectively close said fluid inlet;

- a retainer secureable to said base configured to clamp a peripheral portion of said diaphragm between the base and the retainer;

- an adjuster movable relative to said retainer and having a flange which engages a portion of said diaphragm, including said central section, so as to deflect said portion of said diaphragm towards the fluid inlet, said deflected portion of said diaphragm being movable in response to fluid pressure within said chamber;

- a cover configured for manual movement relative to said base and said retainer, said cover configured to move said adjuster in an axial direction along with said manual movement of said cover to adjust an axial position of said portion of said resilient diaphragm; and

- a visual indicator to visually reflect to a user a current axial position of said adjuster corresponding to a current position of said cover.

36. (New) The pressure regulator of Claim 12, additionally comprising a catch mechanism defining a plurality of angular positions relative to said retainer, said catch mechanism being configured to position said cover in one of said plurality of angular positions.